

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: MASONI, Bruno

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EXAMINER: Chang, R. K.

TITLE: MUFFLER SHELL FOR A MOTOR VEHICLE\*

Amendment A: REMARKS

Upon entry of the present amendments, previous Claims 1 -3 have been canceled and new Claim 4 substituted therefor. Reconsideration of the rejections, in light of the forgoing amendments and present remarks, is respectfully requested. The present amendments have been entered for the purpose of more clearly distinguishing the present invention from the prior art and for the purpose of placing the claim language into a more proper U.S. format.

In the Office Action, Claims 1 and 2 were rejected under 35 U.S.C. § 102(b) as anticipated by the Ellzey patent. The title of the invention was objected to as not being descriptive.

As an overview to the present reply, Applicant has revised previous independent Claim 1 in the form of new independent Claim 4. Previous dependent Claims 2 and 3 have been canceled in view of the non-election thereof.

In particular, new independent Claim 4 specifies a “single strip” of metal that is rolled upon itself in a generally spiral pattern so as to form a tube. The edge line is identified as extending at an acute angle with respect to a longitudinal axis of the tube. The inlet and the outlet are defined as having a "smaller diameter than a diameter of the tube between the inlet and the outlet". It is further indicated that the inlet and the outlet are mechanically deformed by a flospinning into the smaller diameter. The weld line has been positively identified as “sealing an interior of the tube” and for the

purpose of fixing the edge line to an adjacent or underlying surface of the single strip of the metal. Applicant contends that these features serve to distinguish the present invention from the prior art Ellzey patent.

The Ellezy patent describes a method of making a spirally-wrapped multi-layer tube. In particular, the tube includes an outer tube A and an inner tube B. The outer tube A is formed from a spirally-wrapped first strip A. The first strip A has a bent area adjacent an edge of the strip. The amount of this bending is generally equal to a thickness of the strip. The other edge 11 of the strip A is wrapped over the bent portion of the edge 11. This process was described in column 4, lines 11 - 17 as follows:

Next, or simultaneous with the crowning of the sheet A I bend the edge 10 to offset it slightly, in fact, to offset it an amount equal to the thickness of the sheet A so that as the sheet A is wrapped with its edges overlapping the edge portion 11 overlaps or nests with the offset edge portion 10 as clearly shown in Fig. 7 of the drawings.

The inner tube B is formed of a spirally-wrapped second strip B. This second strip B has ridges 12b at or close to both edges of the strip B. The ridge 12b of one edge of the strip B will lap over the ridge of the other edge of the same strip B after one turn of the strip B in order to form an overlapping seam. This process is described in the Ellzey patent in column 4, lines 42 - 49, as follows:

In the particular form of the invention illustrated in the drawings a third and last corrugating operation is performed by providing marginal or edge ridges 12b parallel with the ridges 12 and 12a, which ridges 12b occur at or close to the edges of the sheet B and are preferably proportioned so that each ridge 12b has a flat top or land joined with the adjoining ridge 12a by a curved valley portion 14 and terminating at a slightly intumed lip portion 15.

Several weldings WL' and W2 between the strips of the outer tube A and the strips of the inner tube

B are provided. In particular, there is a welding W at the level of the overlapping between the ridges 12b of the two edges of the second strip B of the inner tube and a welding W' at the level of the overlapping between the two edges (10, 11) of the first strip A of the outer tube.

Applicant respectfully contends that the Ellzey patent does not anticipate the present invention, as defined by independent Claim 4. In particular, and as quite clearly can be seen from the drawings, there is no inlet and outlet in the Ellzey patent that has a smaller diameter than a diameter of the tube between the inlet and the outlet. In the Ellzey patent, one end of the tube is clearly larger than the other end of the tube. There is no suggestion or teaching in the Ellzey patent that there is any deformation whatsoever at the opposite ends of the tube. Furthermore, there is no suggestion that any deformation is created by flosspinning. Additionally, and furthermore, there is no weld line described in the Ellzey patent that ensures the sealing of the single strip of metal so as to form an acute angle with respect to the longitudinal axis of the tube.

The Ellzey patent does not contemplate the formation of a muffler shell. The Ellzey patent is particularly directed to the formation of round, cylindrical structures, such as the bodies of tanks, or round tapered structures such as may form or enter into the fuselage of an airplane or for wing sections of an airplane. (See column 1, lines 38 - 45). As such, it can be seen that the Ellzey patent would not contemplate the formation of a muffler shell.

Since the Ellzey patent describes an outer tube A and an inner tube B that are welded together. The Ellzey patent does not anticipate the "single strip of metal". The Ellzey patent has at least two superimposed strips A and B that correspond each to separate tubes that are welded together. Whenever these separate tubes are welded together, it is not necessary carry out the deformation of the tube at the inlet and the outlet by flosspinning. On this basis, Applicant

respectfully contends that the present invention is not anticipated, nor obvious in view of, the teachings of the Ellzey patent.

Applicant has revised the title to recite "Muffler Shell for Motor Vehicle".

Based upon the foregoing analysis, Applicant contends that independent Claim 4 is now in proper condition for allowance. Additionally, those claims which are dependent upon independent Claim 4 should also be in condition for allowance. Reconsideration of the rejections and allowance of the claims at an early date is earnestly solicited. Since no new claims have been added above those originally paid for, no additional fee is required.

Respectfully submitted,

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Date

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